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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,754	06/10/2005	Yuji Furuuchi	124221	5425
25944 7590 OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER VORTMAN, ANATOLY	
			ART UNIT 2835	PAPER NUMBER
			MAIL DATE 10/10/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/538,754

Applicant(s)

FURUUCHI ET AL.

Examiner

Anatoly Vortman

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/10/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Specie I in the reply filed on 09/05/07 is acknowledged. The traversal is on the ground(s) that "[N]othing in the PCT or its rules permits issuing an Election of Species Requirement. Any United States practice (such an Election of Species Requirement) or interpretation of the rule which is different from or in addition to the unity of invention practice as delineated in PCT Unity Rules 13.1-13.4 is necessarily in violation of PCT Article 27. Species practice is not provided for under PCT Rules 13.1-13.4 and is contrary to PCT Article 27, and the present Election of Species Requirement is accordingly prohibited by Article 27". These arguments are not persuasive. The Election of Species practice is permitted by PCT. Applicant's attention is hereby directed to the MPEP 1850(IX), specifically to the form paragraphs 18.16 and 18.17 directed to the "Lack of Unity – Species" in the international application. Thus, the Election of Species Requirement is not contrary to PCT Article 27 as alleged by Applicant, but is perfectly in line with it. There is nowhere in PCT Article 27 provided that lack of unity cannot be declared because of the presence of the claims drawn to different and distinct species. Further, Applicant contends that "PCT Rule 13.1 specifically contemplates the single examination of a group of invention so linked as to form a single general inventive concept". Firstly, Applicant has neither presented any specific arguments traversing the Examiner's conclusion that species are not so linked to form a single general inventive concept, nor provided any explanation why species do form a single general

inventive concept. On the other hand, Examiner has shown in the original restriction requirement, that the Species I, II, and III lack the same or corresponding special technical features because of the presence of the mutually exclusive characteristics, and therefore, do not form a single general inventive concept (see section one (1) of the Office action of 08/20/07).

Furthermore, contrary to the requirement presented in the Election/Restriction, Applicant did not identify the claims encompassing the elected Specie I.

Furthermore, after additional review of the art of record and of the claims, Examiner has concluded that examination of all pending claims would not present a significant additional burden. Thus, in order to expedite the prosecution and to satisfy the Applicant's request, the outstanding Election/Restriction requirement is hereby withdrawn. The Office action follows:

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 2, are rejected under 35 U.S.C. 102(a) as being clearly anticipated by US/6,462,318 to Furuuchi et al (Furuuchi) (cited in IDS).

Regarding claim 1, Furuuchi disclosed (Fig. 6) a protective element, comprising a heat-generating member (3) and a low-melting metal member (5) on a substrate (2), in which the low-

melting metal member (5) is blown out by the heat generated by the heat-generating member (3) (col. 4, lines 31+), wherein the lateral cross section of at least part of the low-melting metal member (5) is substantially divided into at least two independent cross sections (5a, 5b) between a pair of electrodes (7a, 7b) that pass current to the low-melting metal member (5).

Regarding claim 2, Furuuchi disclosed that at least two strips (5a and 5b) of low-melting metal member (5) are provided between the pair of electrodes (7a, 7b) that pass current to the low-melting metal member (5).

4. Claims 2 and 4, and alternatively claims 1 and 3, are rejected under 35 U.S.C. 102(b) as being anticipated by US/4,041,435 to Gaia (cited in IDS).

Regarding claims 1 and 3, Gaia disclosed (Fig. 41) a protective element, comprising a heat-generating member (642) and a low-melting metal member (646) having a slit in its center, on a substrate (640) (note that members (642) and (646) partially overlap said substrate (640)), in which the low-melting metal member (646) is blown out by the heat generated by the heat-generating member (642), wherein the lateral cross section of at least part of the low-melting metal member (646) is substantially divided into at least two independent cross sections (cross section of said member (646) varies along the length thereof) between a pair of electrodes (628, 634) that pass current to the low-melting metal member (646).

Regarding claim 2, Gaia disclosed (Fig. 22, 23, 39) at least two strips (298, 303) or (608 610) of low-melting metal member are provided between the pair of electrodes that pass current to the low-melting metal member.

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Regarding claim 4, Gaia disclosed (Fig. 15, 16, 24, 25) a thin-walled component (232, 234) or (332-336) is formed in the low-melting metal member between the pair of electrodes that pass current to the low-melting metal member, so that the lateral cross section of at least part of said low-melting metal member is divided into at least two independent cross sections while the heat-generating member is generating heat.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Alternatively, claims 2 and 4, are rejected under 35 U.S.C. 103(a) as being unpatentable over Furuuchi in view of Gaia.

Regarding claims 2 and 4, Furuuchi disclosed all as applied to claim 1, but that said low melting metal member is comprising at least two strips of low-melting metal or a thin-walled component between the pair of electrodes.

Gaia teaches a protective element (Fig. 29, 41), which may have a low-melting metal member having a plurality of shapes and sizes (Fig. 1-26, 28, and 30-37), including at least two strips (298, 303) or (608, 610) of the low-melting metal member (Fig. 22, 23, 39) or a thin-walled component (232, 234) or (332-336) (Fig. 15, 16, 24, 25), as claimed.

Since the aforementioned references are from the same field of endeavor (electrical protectors), the purpose of the low-melting metal members comprising at least two strips of metal, or a thin-walled component taught by Gaia would be recognized in the protector of Furuuchi.

It would have been obvious to a person of ordinary skill in the electrical protector art at the time of the invention to provide the low-melting metal member of Furuuchi having the two strips of metal or having a thin-walled component formed thereon, as taught by Gaia, in order to decrease arcing, reduce the size of the components or to enhance the burning characteristics and the response of the protector (see Gaia, col. 22, lines 3-42; col. 23, lines 4-23).

Alternatively, the technique of varying the shape and size of the fusible link in order to achieve desired opening characteristics of the fuse has been known and widely used at the time of the invention to improve upon similar devices (as evidenced by Gaia). Therefore, applying the aforementioned known technique to the protector of Furuuchi would have yield predictable results (i.e. improved opening and burning characteristics of the low-melting metal member) and would have been obvious to a person of ordinary skill to try with reasonable expectation of success. *KSR v. Teleflex*, 550 U.S. ___, 127 S. Ct. 1727 (2007).

Conclusion

7. The additional prior art made of record and listed on PTO-892 was not relied upon, but is considered pertinent to applicant's disclosure, because of the teachings of various electrical fuses comprising supplemental heaters.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anatoly Vortman whose telephone number is 571-272-2047. The examiner can normally be reached on Monday-Thursday, between 10:00 am and 8:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Jayprakash Gandhi can be reached on 571-272-3740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anatoly Vortman/
Primary Examiner
Art Unit 2835

AV